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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/742,686	12/20/2000	Vlad Mitlin	3Com-77(3354TDCUSP)	5548

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EXAMINER
PERILLA, JASON M

ART UNIT	PAPER NUMBER
2638	

DATE MAILED: 09/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _23 August 2005_.

2a)☐ This action is **FINAL**.   2b)☐ This action is non-final.

3)☒ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-51_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) _____ is/are rejected.

7)☒ Claim(s) _1-51_ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _14 July 2004_ is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

1.   Claims 1-51 are pending in the instant application.

Response to Amendment/Remarks

2.   In view of the amendment to the claims submitted August 23, 2005, the
rejections set forth under 35 U.S.C. §112, second paragraph, have been
withdrawn.

3.   Applicant's request for reconsideration of the finality of the rejection of the
last Office action is persuasive and, therefore, the finality of that action is
withdrawn.

Claim Objections

4.   Claims 1-51 are objected to because of the following informalities:

Regarding claim 1, the equations in the claim are too small to be clearly
legible. Specifically, the exponents are difficult to read and distinguish. It is
suggested that the equations are enlarged and submitted by mail (printed hard
copy) rather than fax to have the clearest version possible presented.

Regarding claim 4, in line 3, "of an information field" should be replaced by
—of the information field—, and the claim is objected to for the same reasons as
applied to claim 1 above regarding the legibility of the equations.

Regarding claim 9, the following version of the claim is presented by the
Examiner to overcome objections to the claim:

> 9.   (Currently amended) A method of selecting forward error
> correction parameters in a channel having a plurality of subchannels in a
> multicarrier communications system, comprising:
>
> storing, in a table, selected sets of forward error correction parameters
> and associated net coding gains from using the sets, the selected sets including

at least a number (s) of discrete multi-tone symbols in a forward-error-correction frame and a corresponding number (z) of forward-error-correction control symbols in ~~a particular~~ each discrete multi-tone symbol, the sets and associated ~~the~~ net coding gains corresponding to combinations of a signal-to-noise ratio and a number of subchannels carrying discrete multi-tone symbol signals;

determining a signal-to-noise ratio representing a set of the plurality of subchannels carrying ~~the~~ discrete multi-tone symbol signals; and

using the table, selecting a particular set of forward error correction parameters for the channel based on at least the signal-to-noise ratio representing the set of the plurality of subchannels and the net coding gain for the selected particular set.

Regarding claim 11, the following version of the claim is presented by the Examiner to overcome objections to the claim:

11.   (Currently amended) A method of selecting forward error correction parameters in a channel having a plurality of subchannels in a multicarrier communications system, comprising:

storing, in a table, selected sets of forward error correction parameters and associated net coding gains from using the sets, the selected sets including at least a number (s) of discrete multi-tone symbols in a forward-error-correction frame, a corresponding number (z) of forward-error-correction control symbols in ~~a particular~~ each discrete multi-tone symbol, and a maximum number of transmissions (k), the sets and ~~the~~ associated net coding gains corresponding to combinations of a signal-to-noise ratio and a number of subchannels carrying discrete multi-tone symbol signals;

determining a signal-to-noise ratio representing a set of the plurality of subchannels carrying ~~the~~ discrete multi-tone symbol signals; and

using the table, selecting a particular set of forward error correction parameters for the channel based on at least the signal-to-noise ratio representing the set of the plurality of subchannels and the net coding gain for the selected particular set.

Regarding claim 14, it is suggested that the claim should be dependant on claim 11 rather than claim 13 because it conflicts with the limitations present in claim 13.

Regarding claim 18, the equations in the claim are too small to be clearly legible. Specifically, the exponents are difficult to read and distinguish. It is suggested that the equations are enlarged and submitted by mail (printed hard copy) rather than fax to have the clearest version possible presented.

Regarding claim 21, in line 3, "of an information field" should be replaced by –of the information field—, and the claim is objected to for the same reasons as applied to claim 18 above regarding the legibility of the equations.

Regarding claim 26, in line 5, "in the information field" should be replaced by –in an information field—, in the equation(s), "$\alpha\nu\delta$" should be replaced by – and--, and the claim is objected to for the same reasons as applied to claim 18 above regarding the legibility of the equations.

Regarding claim 29, the equations in the claim are too small to be clearly legible. Specifically, the exponents are difficult to read and distinguish. It is suggested that the equations are enlarged and submitted by mail (printed hard copy) rather than fax to have the clearest version possible presented.

Regarding claim 34, the following version of the claim is presented by the Examiner to overcome objections to the claim:

> 34.   (Currently amended) An apparatus for selecting forward error correction parameters in a channel having a plurality of subchannels in a multicarrier communications system, comprising:
> means for storing, in a table, selected sets of forward error correction parameters and <u>associated</u> net coding gains from using the sets, the <u>selected</u>

sets including at least a number (s) of discrete multi-tone symbols in a

forward-error-correction frame and a number (z) of forward-error-correction

control symbols in ~~a particular~~ each discrete multi-tone symbol, the sets and ~~the~~

associated net coding gains corresponding to combinations of a signal-to-noise

ratio and a number of subchannels carrying discrete multi-tone symbol signals;

      means for determining a signal-to-noise ratio representing a set of the

plurality of subchannels carrying ~~the~~ discrete multi-tone symbol signals; and

      means for selecting a particular set of forward error correction

parameters for the channel based on at least the signal-to-noise ratio

representing the set of the plurality of subchannels and the net coding gain for

the selected particular set.

Regarding claim 36, the following version of the claim is presented by the

Examiner to overcome objections to the claim:

      36.   (Currently amended) An apparatus for selecting forward error

correction parameters in a channel having a plurality of subchannels in a

multicarrier communications system, comprising:

      means for storing, in a table, selected sets of forward error correction

parameters and associated net coding gains from using the sets, the selected

sets including at least a number (s) of discrete multi-tone symbols in a

forward-error-correction frame, a number (z) of forward-error-correction control

symbols in ~~a particular~~ each discrete multi-tone symbol, and a maximum number

of transmissions (k), the sets and ~~the~~ associated net coding gains corresponding

to combinations of a signal-to-noise ratio and a number of subchannels carrying

discrete multi-tone symbol signals;

      means for determining a signal-to-noise ratio representing a set of the

plurality of subchannels carrying ~~the~~ discrete multi-tone symbol signals; and

      means for selecting a particular set of forward error correction

parameters for the channel based on at least the signal-to-noise ratio

representing the set of the plurality of subchannels and the net coding gain for

the selected particular set.

Regarding claim 40, in line 9, "means for also selects" should be replaced

by –means for selecting also selects–.

Regarding claim 41, the equations in the claim are too small to be clearly legible. Specifically, the exponents are difficult to read and distinguish. It is suggested that the equations are enlarged and submitted by mail (printed hard copy) rather than fax to have the clearest version possible presented.

Regarding claim 44, in line 9, "comparing" should be replaced by –means for comparing--, in line 10, "setting" should be replaced by –means for setting--, and the claim is objected to for the same reasons as applied to claim 41 above regarding the legibility of the equations.

Appropriate correction is required.

Allowable Subject Matter

5.   Claims 1-51 are indicated to contain allowable subject matter.

Regarding claims 1-8, 18-33, and 41-48, indication of allowable subject matter is made because the prior art of record does not disclose the use of the particular relationships (in the form of equations) present in the independent claims.

Regarding claims 15-17 and 40, indication of allowable subject matter is made because the prior art of record does not disclose the selection of t, K, and k such that no forward error correction is applied when the number of sub-channels exceeds a predetermined threshold number of sub-channels.

Regarding claims 9-14, and 34-39, the claims are indicated to contain allowable subject matter because the prior art of record does not disclose or obviate the method wherein the claimed particular subject matter is stored in a

table and selected according to a signal to noise ratio representing a subset of subchannels.

Regarding claims 49-51, the claims are indicated to contain allowable subject matter because the prior art of record does not disclose or obviate the method wherein the claimed particular subject matter is stored in a table and selected according to a signal to noise ratio representing a subset of subchannels.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason M. Perilla whose telephone number is (571) 272-3055. The examiner can normally be reached on M-F 8-5 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth Vanderpuye can be reached on (571) 272-3078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jason M. Perilla
September 16, 2005

jmp

**CHIEH M. FAN
PRIMARY EXAMINER**